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Patent

247/212

(24750-7003)

Serial No. 09/522,724

IN THE CLAIMS:

Please cancel claims 22 and 24, amend claims 1, 8, 9, and 12 as follows, and add new claims 24 and 25.

1. (amended) A stent graft, comprising:
a tubular prosthetic graft comprising an outer surface;
a support structure expandable between a contracted condition for facilitating introduction into a blood vessel, and an enlarged condition for securing the graft across a weakened region of the blood vessel; and
a biosensor attached to at least one of the graft and the support structure, [wherein] the biosensor comprising a pressure sensor arranged [is configured] for sensing pressure beyond the outer surface of the graft within the weakened region of the blood vessel when the graft is secured within the blood vessel.
2. (original) The stent graft of claim 1, wherein the biosensor is directly attached to an outer surface of the graft such that the pressure sensor is exposed outside the graft.
3. (original) The stent graft of claim 2, wherein the biosensor is attached to the graft by sutures or an adhesive.
4. (original) The stent graft of claim 1, wherein the biosensor is directly attached to struts comprising the support structure.

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5. (original) The stent graft of claim 1, wherein the support structure comprises a self-expanding stent.

6. (original) The stent graft of claim 1, wherein the support structure comprises a balloon-expandable stent.

7. (original) The stent graft of claim 1, wherein the biosensor is attached to at least one of the graft and the support structure by a filament.

8. (amended) The stent graft of claim 7 [1], wherein the filament is configured to dispose the biosensor beyond the [an] outer surface of the stent graft when the support structure is in the enlarged condition.

9. (amended) The stent graft of claim 1, further comprising a plurality of filaments extending from an outer surface of the stent graft to the biosensor, thereby attaching the biosensor to the outer surface of the stent graft.

10. (original) The stent graft of claim 9, wherein the plurality of filaments are attached to the stent graft at one or more predetermined locations, and the filaments have predetermined lengths, whereby when the support structure is expanded to its enlarged condition, the

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filaments substantially secure the biosensor at a predetermined position on the outer surface of the
stent graft.

11. (canceled)

12. (amended) An apparatus for treating an aneurysm within a blood vessel,
comprising:

a stent graft comprising a tubular graft including an outer surface, and an expandable support
structure;

a biosensor attached to the stent graft by one or more filaments, wherein the biosensor
comprises a pressure sensor arranged [is configured] for sensing pressure beyond the outer surface of
the graft within the weakened region of the blood vessel when the stent graft is secured within the
blood vessel;

an elongate member including a proximal end and a distal end adapted for introduction into a
blood vessel, the distal end including a distal region for receiving the stent graft in a contracted
condition and the biosensor adjacent one another thereon; and

a constraint for securing the stent graft to the distal region of the delivery device.

13. (original) The apparatus of claim 12, wherein the elongate member comprises a
nose portion on the distal end, the nose portion defining a cavity for receiving the biosensor therein
when the stent graft is received on the distal region.

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14. (original) The apparatus of claim 13, wherein the constraint comprises a sheath slidable between an extended position wherein a distal end of the sheath engages the nose portion, and a retracted position wherein the stent graft is exposed on the elongate member.

15. (original) The apparatus of claim 14, wherein the sheath comprises a tongue extending distally from its distal end, the tongue being configured to extend into the cavity of the tapered nose portion when the sheath is disposed in its extended position, the tongue substantially securing the biosensor within the cavity.

16.-20. (canceled)

21. (previously added) The stent graft of claim 1, wherein the weakened region of the blood vessel comprises an aneurysmal sac, and the biosensor is configured for sensing a pressure within the aneurysmal sac when the graft is secured within the blood vessel.

22. (canceled)

23. (previously added) The apparatus of claim 12, wherein the weakened region of the blood vessel comprises an aneurysmal sac, and the biosensor is configured for sensing a pressure within the aneurysmal sac when the stent graft is secured within the blood vessel.

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24. (canceled)

25. (new) The apparatus of claim 4, wherein the support structure is attached to an inner surface of the graft, and wherein the biosensor is mounted in a hole through the graft such that the pressure sensor is exposed outside the graft.

26. (new) The apparatus of claim 1, wherein the biosensor is attached by at least one of a filament, a sling, and a harness to an outer surface of the stent graft such that the biosensor is disposed beyond the outer surface of the graft.